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any shared commercial/public safety network (the "Shared Wireless Broadband Network") that may ultimately be established. As are currently written, the Commission's 700 MHz rules do not permit early deployment by the State at this time.

Moreover, Congress recently demonstrated its significant commitment to advancing the deployment of public safety broadband communications. In the American Recovery and Reinvestment Act of 2009, Congress made available over \$7 billion of Federal funds for broadband deployment, stating that one of its goals in doing so is to "improve access to, and use of, broadband service by public safety agencies."<sup>1</sup> Grant of the requested waiver thus would be consistent with Congress's recent action to expand public safety broadband communications.

## II. INTRODUCTION

Despite the Commission's significant efforts to establish a 700 MHz Public-Private Partnership for interoperable public safety broadband communications throughout the United States, achievement of this goal remains in the distance, leaving local jurisdictions without a clear path to achieving interoperable public safety broadband communications.

Though the Commission has proposed revised rules that retain the Public-Private Partnership concept and set forth detailed technical and operational rules to govern the Shared Wireless Broadband Network it is unclear whether a future auction of the Upper 700 MHz D Block will be held, whether it would succeed, and whether it would result in nationwide coverage. Because of the delays and uncertainties in establishing the Shared Wireless Broadband Network, first responders in the State and across the country have been left without access to dedicated

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<sup>1</sup> American Recovery and Reinvestment Act, Pub. L. No. 111-5, § 6001(b) (4) (2009).

<sup>2</sup> See Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, WT Docket No. 06-150 and PS Docket No. 06-229, Third Further Notice of Proposed Rulemaking, FCC 08-230 (rel. Sept. 25, 2008) ("Third Further Notice").

state-of-the-art communications capabilities. Deployment of a public safety broadband network will provide increased safety and security for the first responders and the American public.

The Commission's current 700 MHz rules reserve to the Upper 700 MHz D Block licensee "the exclusive right to build and operate the Shared Wireless Broadband Network."<sup>3</sup> There are two exceptions to this general rule, which allow local public safety entities, with the approval of the Public Safety Broadband Licensee ("PSBL"), to construct broadband networks at their own expense:

in areas where the upper 700 MHz D Block licensee has committed in a Network Sharing Agreement to build out a network by a certain (later) date, and in areas where the upper 700 MHz D Block licensee is not required by a Network Sharing Agreement to build out.

Neither of these exceptions provides jurisdictions with the ability to immediately deploy broadband services that will benefit public safety and the public at large. These exceptions presuppose the existence of a D Block licensee and a Network Sharing Agreement - conditions that do not exist. Absent a successful D Block auction and Public-Private agreement, the Commission's rules do not allow for the immediate deployment of broadband services that will benefit public safety and the public at large.

Nonetheless, the State is eager to deploy a broadband Public Safety Wireless Network to support state and local police, firefighters and rescue/emergency medical service workers.

Use of the 700 MHz band would allow these and other state and county public safety agencies to achieve greater interoperability and cost effectiveness, and could increase the coverage area over which they could communicate because of the 700 MHz band's superior propagation characteristics. The State therefore asks the Commission to act quickly on the instant waiver request to ensure we can begin deployment as quickly as possible.

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<sup>3</sup> 47 C.F.R. §§ 27.1330 & 90.1430(a).

(11). THE STATE HAS IDENTIFIED PUBLIC SAFETY BROADBAND COMMUNICATIONS AS A PRIORITY AND IS PREPARED TO DEVOTE RESOURCES TO DEPLOY AN INTEROPERABLE NETWORK IN THE 700 MHZ BAND.

Public safety agencies at both the state and local level across the State are already embracing wireless broadband services through the use of commercial services from network providers like Verizon and AT&T. Increasingly mobile data applications are being used to enhance communications and information sharing in the field. While the benefits of a pervasive, ubiquitous network are numerous and readily acknowledged by public safety users, access to such services through a commercial network can be risky, especially during emergencies, if quality of service and priority of service is not maintained for public safety. As a consequence, there is significant interest in developing a wireless broadband network exclusively for public safety use as is commonly found with the state's land mobile radio systems.

The State is prepared to deploy a public safety broadband network in the 700 MHz band in the near-term future (i.e., before a shared commercial/public safety network could be established). Deployment of such a network in the State will enhance day-to-day, task force and mutual aid response through support of a full spectrum of interoperable IP multi-media applications, including:

- Streaming video (surveillance, remote monitoring)
- Digital Imaging
- Automatic Vehicle Location
- Computer Aided Dispatching
- Mapping/GIS
- Remote Database Access
  - Report Management System Access
  - Telemetry-Remote Diagnostics
- Web Access, both intranet and Internet

A broadband public safety network in the State will support applications that currently cannot be supported over existing narrowband or wideband wireless data technologies. Tasks that require the consumption of substantial communications time between dispatchers and other officers on narrowband voice systems (e.g., database lookups and dispatch messaging) could be off-loaded to broadband spectrum,

significantly reducing narrowband channel load. In addition, allowing police officers, for example, to have remote access to databases (e.g., DMV records), remote form entry and reporting and web access will enhance public safety by increasing officer efficiency, reducing paperwork and allow officers to spend more of their time on patrol.

Broadband networks will allow mission-critical information to be exchanged in real-time, anytime, anywhere. Distribution of images (floor plans, mug shots, incident stills), videos (surveillance feeds, on-scene video), messaging, and access to incident management databases provide a common operating picture and access to information from the field, enhancing both incident response and first responder safety.

As demonstrated below, our stand-alone network will meet all of the technical specifications the Commission has proposed to require for the Shared Wireless Broadband Network, and it will be capable of being integrated into any eventual shared network regardless of the technology chosen for that network. Because the public interest thus would be served if the Commission grants the waiver requested herein, we request that favorable action on this request be taken expeditiously.

#### IV. THE REQUESTED WAIVER WOULD SERVE THE PUBLIC INTEREST.

The public interest will be served by allowing the State to engage in early deployment. To obtain a waiver of the Commission's rules, a petitioner must demonstrate either that (1) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the present case, and that a grant of the waiver would be in the public interest, or (2) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.<sup>4</sup>

Under either of these standards, the requested waiver allowing the State to deploy a public safety broadband network in advance of the contemplated Shared Wireless Broadband Network is justified.

A. *Grant of the Waiver Will Enable the State to Deploy an Interoperable Broadband Network to Serve First Responders, Without Undermining the Commission's 700 MHz Public-Private Partnership.*

The State of Alabama has developed a state-wide 700 MHz wireless architecture as part of its response to Round 2 of the NTIA Rural Broadband submission. Regardless of whether the recently proposed rules may succeed in attracting one or more commercial D Block licensees, the reality is that the deployment of a nationwide network from which local public safety entities can obtain broadband services is likely years away. The State is willing to commit resources to bridge this gap so that its first responders can utilize broadband technology to protect life and property immediately.

In Washington, DC, the National Capital Region public safety broadband network demonstrates that public safety entities can make use of this valuable 700 MHz spectrum today in advance of a Public-Private Partnership deployment. The State should be afforded a similar opportunity.

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<sup>4</sup> CFR § 1.925(b)(3). Waiver applicants face a high hurdle and must plead with particularity the facts and circumstances that warrant a waiver. *WAIT Radio v. FCC*, 413 F.2d 1153, 1157 (D.C. Cir. 1969) (*WAIT Radio*), *aff'd*, 459 F.2d 1203 (1973), *cert. denied*, 409 U.S. 1027 (1972).

While we wait for a shared commercial/public safety network to be developed, the public interest requires that local authorities like the State be allowed to deploy their own interoperable, broadband public safety communications networks. In these unique circumstances, waiver of the rules limiting such deployment to the Upper 700 MHz D Block licensee will serve the public interest.

**B. *The Network Will Be Robust and Will Satisfy All of the Technical Specifications Proposed by the Commission in the Third Further Notice.***

The State is planning deployment of a Long Term Evolution (LTE) network to support public safety operations. This LTE system will be deployed to operate on a paired assignment of 5 MHz wide channels in the public safety broadband block between 793-798 MHz for mobile transmission and 763-768 MHz for base station transmission. LTE is a commercial open standard technology, which will be deployed by commercial wireless operators in the commercial portions of the 700 MHz band within the next year.

Our proposed LTE network would meet the technical specifications proposed by the Commission in its Third Further Notice. In particular:

- Capacity, Throughput, and Quality of Service. With user peak data rates of 31.7 Mbps (downlink and 8.5 Mbps (uplink) and quality of service support for real-time and non-real-time IP-based applications, LTE will support all the applications listed in Table 1 of proposed Section 27.1305 of the Commission's rules. The network will be designed with effective cell edge data rates exceeding those listed in Table 2 of proposed Section 27.1305. In addition, the system will provide QoS mechanisms and priority levels consistent with LTE standards. Both inter- and intra-user QoS are supported by LTE. Since the network deployed under this waiver request is intended for operation in the public safety broadband allocation and will only serve public safety subscribers, features to preempt consumers or allow priority access to the D block described in the Third Further Notice will not be supported. Should they be needed at a later time, these features can be supported by updating the network's core network software.
- Security and Encryption. LTE is highly secure in view of its use of a variety of robust authorization and authentication mechanisms employing standard encryption techniques. IPSec is supported. The system will comply with commercial best practices.

**C. *The State's Network will be integrated into a shared commercial-public safety network with guaranteed network bandwidth specifically for Alabama's public safety community.***

The interoperable public safety broadband network that would be deployed by the State under the requested waiver will be capable of being integrated into a shared commercial/public safety network once it is

built.

A number of state-owned assets could be used to support a public-private network. These include:

- Tower structures, both state owned and commercially deployed, and ancillary equipment such as antennas, cables and backup power equipment; and
- Existing state-wide IP Networks such as the Alabama Education Network, as well as commercially available IP and wireless networks

The State would obtain the approval of the PSBL for any early deployment undertaken under the waiver. As noted above, if the Shared Wireless Broadband Network is extended into our area, we would work with the D Block licensee and the PSBL to achieve seamless integration. Moreover, the Public Safety Spectrum Trust Corporation ("PSST"), which administers the PSBL, recently submitted an Ex Parte letter to the Commission supporting comparable requests made by Boston, New Jersey and Bay Area Cities to use the public safety 700 MHz broadband spectrum space for network deployment.<sup>5</sup> The PSST supports these Petitioners' waivers as they are taking the first steps towards building-out the nationwide Shared Wireless Broadband Network.

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<sup>5</sup> See Public Safety Spectrum Trust Ex Parte letter, Comments on Recent Waiver requests for Use of the 700 MHz Public Safety Broadband Allocation Currently Licensed to the Public Safety Spectrum Trust, PS Docket No. 06-229, WT Docket Nos. 06-150 and 96-86, City of Boston, Bay Area Cities, and State of New Jersey (May 7, 2009).



Because early-deployed networks can meet all Commission technical requirements and can be integrated into the Shared Wireless Broadband Network regardless of the technology chosen, there is no conflict between the Commission's goals in the 700 MHz rulemaking and the requested waiver. In fact, a waiver grant would expedite achievement of the Commission's goals.

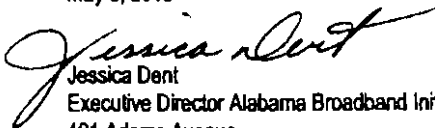
V. CONCLUSION

The Commission would significantly advance the cause of public safety by allowing the State to deploy its own public safety broadband network that could operate until a Shared Wireless Broadband Network can be established. The State stands ready to begin deployment of life-saving broadband services, and respectfully requests that the Commission promptly allow it to begin by granting the waiver as requested herein.

Respectfully submitted,



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